Water & Sewer

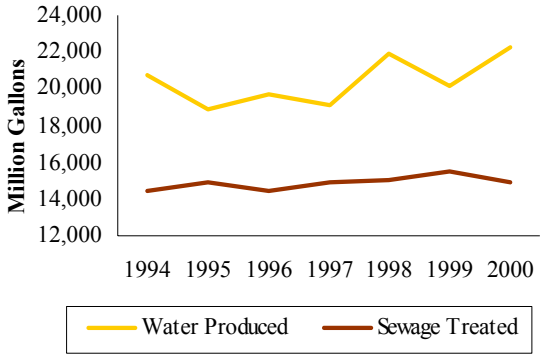
Water and Sewer Department existsis to provide quality, reliable, customer-convenient water and sewer service to the citizens of Wichita.

The water treatment plant at Sim Park.

Overview

The Water and Sewer Department supplies and distributes high quality water, and collects and treats wastewater for the City of Wichita. Services provided include pumping and purifying water; maintaining the water distribution and wastewater collection systems; treating wastewater; managing facilities; and planning for future needs.

The Water Utility produces, treats, and distributes approximately 20 billion gallons of water per year on average for its customers. Due to the hot, dry summer of 2000, the Utility delivered a record 22.3 billion gallons of water to customers. The Sewer Utility collects and treats approximately 15 billion gallons per year from its customers. Service levels, and water consumption in particular, are driven primarily by system growth rates as well as weather conditions that affect consumption patterns. Despite the large volume of water produced and sewage treated, the Water & Sewer Utilities consistently exceed environmental regulations, often before such regulations are put into effect. This proactive approach assists in planning and helps to ensure that Utility customers receive excellent service value.



Operations

The Water Utility provides customers with treated water originating from Cheney Reservoir, the Equus Beds wellfield, and local supply wells. In accordance with state law and the comprehensive water supply plan, the Utility has sought to reduce the amount of water required from groundwater sources (wells) in an attempt to minimize impacts on groundwater supplies. In addition, the Utility is conducting a project to determine the feasibility of withdrawing excess rainfall from the Little Arkansas River during periods of wet weather. The water drawn from the river can then be injected into the aquifer to partially offset Utility withdrawals from the wellfield groundwater supply.

Selected Operations Performance Measures

	1999	2000	2001	2002
Water treatment cost per 1,000 gallons	0.33	0.32	0.32	0.31
Sewer treatment cost per 1,000 gallons	0.43	0.42	0.42	0.41

The Production and Pumping Division procures, treats, and pumps water from Cheney Reservoir and the Cityís local supply wells near Halstead. This activity ensures that adequate water supply and

pressure is available to citizens when needed. Costs associated with treatment and pumping of water, including electricity, chemical costs and infrastructure improvements, represent the largest single category of operations and maintenance expenditures in the Water Utility budget.

Water is delivered to customers under pressure via pumps that can handle approximately 30,000 gallons per minute.

Recently the Water Utility has been conducting pilot tests of a relatively new technology known as AMR, which stands for Automated Meter Reading. This technology allows meters to be read electronically from a distance, enabling them to be read much faster, more efficiently, and with fewer errors. The 2001 and 2002 budgets include funding to begin the transfer to AMR by providing for the systemís installation on all new metered services requested. As the technology continues to improve and the percentage of AMR-equipped meters increases throughout the City, meter reading errors and costs will be dramatically reduced.

Sewer Utility staff operates and maintains the treatment plants, five odor control injection sites and forty lift stations. Wastewater entering the sanitary sewer system receives primary treatment at Sewage Treatment Plant #1 (constructed in 1931) and secondary treatment at Plant #2 (constructed in 1960). The City recently acquired the Sedgwick County Sewer District collection and treatment system, including the Four Mile Creek facility. This addition will ensure more efficient and cost-effective sewer service for customers throughout the region. The planned Northwest Sewage Treatment Plant (Plant #3) will add further capacity beginning in 2003.

The Sewer Utility was recently given a National Pretreatment Excellence Award for its Industrial Pretreatment Program. This award is given to pretreatment programs that have achieved superior industrial compliance levels with wastewater discharge regulations and have implemented innovative mechanisms within the program. Some of the mechanisms used by the program include: a comprehensive inspection program; a biological monitoring program; a combined storm water and industrial monitoring program; and participation in public education events like the Pretreatment Workshop and Boeing Earth Day Fair.

Maintenance

The Water Distribution Division maintains over 1,500 miles of water mains, 28,000 valves, 8,000 fire hydrants, and 150,000 water service lines and meter sets. Over 1,200 main and service line leaks are repaired every year. An ongoing preventive maintenance and inspection effort is underway to prevent leaks and breaks before they occur and require more expensive repair or reconstruction. In

Selected Maintenance Performance Measures

	1999	2000	2001	2002
Water main breaks per 1,000 line miles	724	600	550	525
Sewer stoppages per 1,000 line miles	367	435	400	375

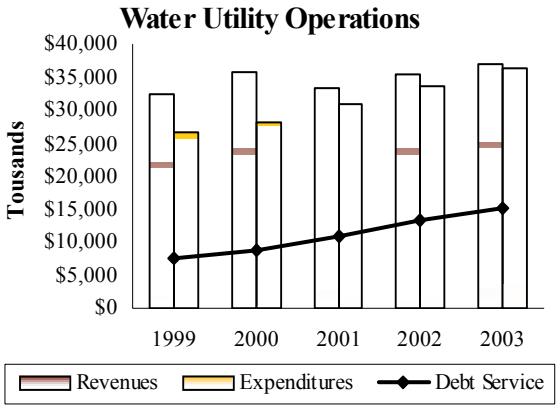
2000, the fire hydrant maintenance function was transferred from the Fire Department to the Water Distribution Division.

Sewer Utility staff are responsible for cleaning and maintaining approximately 1,450 miles of sanitary sewer laterals, mains, interceptors and manholes. The aim of this activity is to prevent tree roots and other intrusions from blocking or damaging the system and to minimize inflow and infiltration from other sources that increase the volume of sewage reaching the plants, increasing the overall cost of treatment. This preventive maintenance program increases Utility efficiency by addressing problems before they occur, thereby eliminating the need for more expensive maintenance or repair.

Finance and Operations

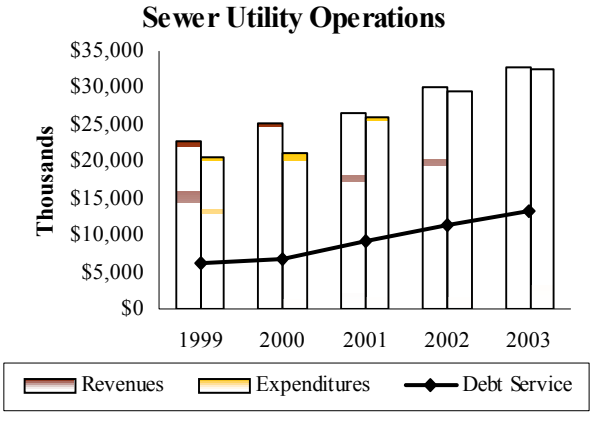
Utility operating budgets reflect additions for deferred vehicle replacements, debt service requirements, and projected increases in bad debt costs caused by delays in the configuration of the Utilitiesí new billing system. The Sewer Utility budget also reflects additional operations and maintenance costs associated with the newly-acquired County Sewer District facilities. In the Water Utility, continued allowances have been made in the budget to account for sales tax. While the Kansas State Legislature has recently approved a provision whereby the City will have the option to forgo sales tax in favor of a set contribution to the State Water Fund, it appears that this option would result in a greater financial burden on the Utility fund, and thus may not prove a more attractive alternative.

Debt service is the primary variable affecting the rate structure of each utility. Planned rate changes are in accordance with staff recommendations to raise rates moderately in anticipation of large future capital expenditures. Raising rates by smaller amounts a few years before funding needs mature will ensure that capital financing needs can be met without double-digit rate increases. However, significantly increased capital financing needs are projected for the near future for both Utility



Financial Summary
Combined Water & Sewer Revenues (in thousands)

	2000	2001	2002
Water Sales Revenue	31,885	28,447	30,303
Sewer Sales Revenue	23,969	23,107	25,869
Interest/Other	5,238	7,614	8,228
Revenue - All Sources	61,092	59,168	64,400



funds. The Water Supply Plan, Sewage Treatment Plant #3, and other planned improvements will likely require future rate increases. In addition, the recent acquisition of the County Sewer District facilities will require the City to finance major maintenance and capacity upgrades in that system. For this reason, it is expected that the systemís acquisition will require increased capital and operations funding until it pays for itself within ten years. Any future rate changes will be subject to review and approval by the City Council. City staff are currently exploring alternatives to system-wide rate increases, including different debt financing strategies and rescheduling of planned projects.

Annual Water & Sewer Rate Increases (projected for 2002-2003)

	2001	2002	2003
Water Rate Increases	5%	5%	5%
Sewer Rate Increases	5%	8%	6%

Because of sound fiscal management and planning for future capacity and financing needs, the Water and Sewer Utilities enter the millennium in a sound financial position. This leads to a higher bond rating given by financial institutions evaluating utility bonds. A higher bond rating reduces overall debt service costs by reducing the interest rate at which debt can be issued in any given year. Part of this financial strategy involves financing of capital improvements through cash reserves, which further reduces the cost of improvements by eliminating bond issuance and interest costs.

Bonded Debt Service Coverage Ratio (must equal or exceed 120%)

	2001	2002	2003
Water Coverage Ratio	179%	156%	149%
Sewer Coverage Ratio	126%	129%	122%

Revenue bond covenants require that after operating and maintenance expenses, net annual revenues must equal at least 120 percent of the annual debt service payments for principal and interest. This is the bonded debt coverage ratio. A higher ratio provides a cushion against fluctuations in utility revenues (which can be significant given the impact of weather changes on utility revenues). Bond rating agencies and the bond market typically rate utilities as superior if the bond coverage ratio is relatively high.

Water rates are based on a customerís average winter consumption (AWC), which is defined as the mean monthly consumption calculated during the months of December, January, February and March. The AWC is calculated in April and is used as the basis for billings in the ensuing twelve months. The minimum monthly AWC for any metered service on a meter sized at one inch or less is 6,000 gallons. In addition, a minimum monthly charge is assessed for all customers regardless of consumption. The water rate increases as consumption moves up from one block to the next. The AWC rate structure is designed to encourage conservation by imposing a penalty on excessive water usage.

2001 Water Rate Structure (cost per thousand gallons)

	Inside-City Rate	Outside-City Rate
Block 1 (0-110% AWC)	$0.65	$1.01
Block 2 (111-310% AWC)	$2.34	$3.63
Block 3 (above 310% AWC)	$3.52	$5.45

Water Utility Fund Budget Summary

	2000 Actual	2001 Adopted	2001 Revised	2002 Adopted	2003 Approved
Water Utility Fund Revenue	**35,901,180**	**33,830,000**	**33,300,010**	**35,399,940**	**37,099,860**
Personal Services	6,295,273	7,409,940	7,203,520	7,695,920	8,251,070
Contractual Services	6,149,794	6,406,570	6,428,490	6,498,970	6,544,130
Commodities	1,898,693	2,724,530	2,644,400	2,704,300	2,744,200
Capital Outlay	2,409,028	632,300	872,600	566,930	730,200
Other	11,411,856	13,535,500	14,743,890	17,230,720	19,152,900
Total Water Utility Fund Expenditures	**28,164,644**	**30,708,840**	**31,892,900**	**34,696,840**	**37,422,500**
Revenue Over (Under) Expenditures	7,736,536	3,121,160	1,407,110	703,100	-322,640
Transfer to Reserves	**7,736,536**	**3,121,160**	**1,407,110**	**703,100**	**-322,640**
Total full-time positions	178	178	180	182	182
Total part-time positions	37	37	37	37	37
Total FTE positions	201.75	201.75	202.75	204.75	204.75

Sewer Utility Fund Budget Summary

	2000 Actual	2001 Adopted	2001 Revised	2002 Adopted	2003 Approved
Sewer Utility Fund Revenue	**25,191,292**	**26,060,000**	**26,705,000**	**30,081,000**	**32,793,000**
Personal Services	6,916,760	7,623,530	7,379,180	8,271,270	8,880,640
Contractual Services	3,468,211	3,935,890	3,854,320	4,587,570	4,622,010
Commodities	1,779,281	1,860,830	2,049,210	2,065,840	2,140,260
Capital Outlay	452,237	968,590	1,311,640	1,099,950	1,103,080
Other	8,670,225	9,324,040	11,581,620	13,699,440	15,815,260
Total Sewer Utility Fund Expenditures	**21,286,714**	**23,712,880**	**26,175,970**	**29,724,070**	**32,561,250**
Revenue Over (Under) Expenditures	3,904,578	2,347,120	529,030	356,930	231,750
Transfer to Reserves	**3,904,578**	**2,347,120**	**529,030**	**356,930**	**231,750**
Total full-time positions	141	142	150	150	150
Total part-time positions	1	1	1	2	2
Total FTE positions	141.5	142.5	150.5	151	151

“Wichita...
a City Achieving the Extraordinary”